

Appl. No. 09/275,722

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LISTING OF THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of claims in the application:

- 1 (Previously Presented) 1. A method comprising:
 - 2 providing a key matrix having N rows and M columns of matrix keys, where $N \geq 2$ and
 - 3 $M \geq 2$;
 - 4 for each column of the key matrix, performing arithmetic operations utilizing matrix keys
 - 5 of at least two selected rows of the key matrix to produce a secret device key which is part of a
 - 6 first set of secret device keys;
 - 7 producing a shared secret key based on arithmetic operations on selected secret device
 - 8 keys of the first set of secret device keys.
- 1 (Original) 2. The method of claim 1, wherein the arithmetic operations include modular
- 2 addition.
- 1 (Original) 3. The method of claim 1, wherein prior to performing the arithmetic operations, the
- 2 method comprises:
 - 3 generating a key selection vector identifying the at least two selected rows of the key
 - 4 matrix from which to produce the first set of secret device keys.
- 1 (Original) 4. The method of claim 3, wherein the key selection vector is uniquely assigned to a
- 2 first digital platform.

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1 (Original) 5. The method of claim 4, wherein prior to producing the shared secret key, the
2 method comprises:
3 receiving a key selection vector from a second digital platform in communication with
4 the first digital platform; and
5 analyzing contents of the key selection vector from the second digital platform to
6 determine the selected secret device keys of the first set of secret device keys.

1 (Original) 6. The method of claim 1, wherein prior to performing arithmetic operations on keys
2 of at least two selected rows, the method further comprises:
3 dedicating the rows of the key matrix to a first classification; and
4 dedicating the columns of the key matrix to a second classification.

1 (Original) 7. The method of claim 6, wherein the first classification includes digital platforms
2 designed to provide information to other digital platforms.

1 (Original) 8. The method of claim 7, wherein the second classification includes digital
2 platforms designed to receive information from other digital platforms.

1 (Original) 9. The method of claim 1, wherein the producing of the shared secret key comprises:
2 analyzing contents of an incoming key selection vector; and
3 performing arithmetic operations of the selected secret device keys located in columns of
4 the key matrix identified by the contents of the incoming key selection vector.

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- 1 (Original) 10. The method of claim 9, wherein the producing of the shared secret key further
2 comprises:
3 performing a hash operation on results of the arithmetic operations of the selected secret
4 device keys located in the column of the key matrix identified by the contents of the
5 incoming key selection vector.

- 1 11- 27 (Cancelled).